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Consideration and allowance of the present application is most respectfully requested.

Respectfully submitted,

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Claims

1. A method for producing a magnetically excitable core (24) having a core winding (40) for an electrical machine, by which in a method step (S1), the core (24), having a substantially parallelepipiped shape (20) with slots (32) extending parallel on one side, is furnished, into whose slots (32), in a method step (S2), the core winding (40) is inserted by its winding sides (36), and then in a method step (S3), the core (24) together with the core winding (40) is reshaped into a cylindrical ring shape (52) with radially inward-oriented slots (32), characterized in that in each case all the winding sides (36) that are inserted into each slot (32) are pressed into a slot shape (119) in a tool (44) and reshaped before being inserted into the slot (32).

2. The method of claim 1, characterized in that the core (22) is fabricated in such a way that on each of its ends (61) to be joined together, there is one half-tooth (88) each in the circumferential direction.

3. The method of [one of the foregoing claims] claim 1, characterized in that the winding sides (36) of the core winding (40) are pressed into a slot shape (119), which corresponds to a cross-sectional shape of the slots (32) of the core (24).

4. The method of [claims 1 and 2] claim 1, characterized in that the winding sides (36) of the core winding (40) are pressed into a slot shape (119), which corresponds to a cross-sectional shape of the slots (32) of the core (24), minus at least a fraction of a thickness (d_{ISO}) of an insulating layer

(123).

5. The method of [one of the foregoing claims] claim 1, characterized in that the core winding (40) is wound with at least one winding overhang (115).

6. The method of claim 5, characterized in that a spacing (d2) of an overhanging winding side (36) from an adjacent, non-overhanging winding side (36) is wound larger than a spacing (d1) between two slots (32).

7. The method of claim 6, characterized in that by the pressing of the winding sides (36) into the slot shape (119), the at least one overhanging winding side (36) is permanently lifted out of a plane formed by the non-overhanging winding sides (36).

8. The method of [one of the foregoing claims] claim 1, characterized in that the core winding (40) is embodied as a two-layer loop winding.

9. The method of [one of the foregoing claims] claim 1, characterized in that the core (24), before the core winding (40) is inserted into the slots (32), is bent over its core spine (89) in such a way that slot openings (72) for insertion of the winding sides (36) are widened.

10. The method of [one of the foregoing claims] claim 1, characterized in that the core winding (40) is embodied as a simple, single-layer loop winding.

11. The method of [one of the foregoing claims] claim 1, characterized in that a winding overhang (115) is inserted into

the at least one slot (32) before the conclusion of the bending of the core (24) into the cylindrical ring shape (52).

12. The method of [one of the foregoing claims] claim 1, characterized in that after the bending of the core (24) into the cylindrical ring shape (52), the ends (61) are materially joined together.

13. A method for producing a magnetically excitable core (24) having a core winding (40) for an electrical machine, by which in a method step (S1), the core (24), having a substantially parallelepipiped shape (20) with slots (32) extending parallel on one side, is furnished, into whose slots (32), in a method step (S2), the core winding (40) is inserted by its winding sides (36), and then in a method step (S3), the core (24) together with the core winding (40) is reshaped into a cylindrical ring shape (52) with radially inward-oriented slots (32), characterized in that in each case all winding sides (36) that are each inserted into one slot (32) are reshaped after the insertion into the slot (32) by means of a shaping die 176 in such a way that all the winding sides together are reshaped in such a way that their outer contour corresponds to a slot (32) of the core (24) that has been bent into a round shape.

14. A magnetically excitable core (24) having a core winding (40) for an electrical machine (140), produced by [one of the foregoing claims] claim 1.

15. The magnetically excitable core (24) having a core winding (40) for an electrical machine (140) as defined by claim 14, characterized in that the core (24) has a joining point (156), at which its two end faces (68) are joined together.

16. The magnetically excitable core (24) having a core winding (40) for an electrical machine (140) as defined by claim 14 [or 15], characterized in that both ends (61) are materially joined together.

17. The magnetically excitable core (24) having a core winding (40) for an electrical machine (140) as defined by [one of claims 14-16] claim 14, characterized in that at least one core winding terminal is disposed on each of the two sides of the joining point (156).

18. A stator (150) for an electrical machine (140), which is a magnetically excitable core (24) with a core winding (40), produced by [one of the foregoing claims 14-17] claim 14.

19. An electrical machine (140), in particular a generator, having a stator as defined by claim 18.

Claims

1. A method for producing a magnetically excitable core (24) having a core winding (40) for an electrical machine, by which in a method step (S1), the core (24), having a substantially parallelepipiped shape (20) with slots (32) extending parallel on one side, is furnished, into whose slots (32), in a method step (S2), the core winding (40) is inserted by its winding sides (36), and then in a method step (S3), the core (24) together with the core winding (40) is reshaped into a cylindrical ring shape (52) with radially inward-oriented slots (32), characterized in that in each case all the winding sides (36) that are inserted into each slot (32) are pressed into a slot shape (119) in a tool (44) and reshaped before being inserted into the slot (32).

2. The method of claim 1, characterized in that the core (22) is fabricated in such a way that on each of its ends (61) to be joined together, there is one half-tooth (88) each in the circumferential direction.

3. The method of claim 1, characterized in that the winding sides (36) of the core winding (40) are pressed into a slot shape (119), which corresponds to a cross-sectional shape of the slots (32) of the core (24).

4. The method of claim 1, characterized in that the winding sides (36) of the core winding (40) are pressed into a slot shape (119), which corresponds to a cross- sectional shape of the slots (32) of the core (24), minus at least a fraction of a thickness (d_{Iso}) of an insulating layer (123).

5. The method of claim 1, characterized in that the core winding (40) is wound with at least one winding overhang (115).

6. The method of claim 5, characterized in that a spacing (d2) of an overhanging winding side (36) from an adjacent, non-overhanging winding side (36) is wound larger than a spacing (d1) between two slots (32).

7. The method of claim 6, characterized in that by the pressing of the winding sides (36) into the slot shape (119), the at least one overhanging winding side (36) is permanently lifted out of a plane formed by the non-overhanging winding sides (36).

8. The method of claim 1, characterized in that the core winding (40) is embodied as a two-layer loop winding.

9. The method of claim 1, characterized in that the core (24), before the core winding (40) is inserted into the slots (32), is bent over its core spine (89) in such a way that slot openings (72) for insertion of the winding sides (36) are widened.

10. The method of claim 1, characterized in that the core winding (40) is embodied as a simple, single-layer loop winding.

11. The method of claim 1, characterized in that a winding overhang (115) is inserted into the at least one slot (32) before the conclusion of the bending of the core (24) into the cylindrical ring shape (52).

12. The method of claim 1, characterized in that after the bending of the core (24) into the cylindrical ring shape (52),

the ends (61) are materially joined together.

13. A method for producing a magnetically excitable core (24) having a core winding (40) for an electrical machine, by which in a method step (S1), the core (24), having a substantially parallelepipiped shape (20) with slots (32) extending parallel on one side, is furnished, into whose slots (32), in a method step (S2), the core winding (40) is inserted by its winding sides (36), and then in a method step (S3), the core (24) together with the core winding (40) is reshaped into a cylindrical ring shape (52) with radially inward-oriented slots (32), characterized in that in each case all winding sides (36) that are each inserted into one slot (32) are reshaped after the insertion into the slot (32) by means of a shaping die 176 in such a way that all the winding sides together are reshaped in such a way that their outer contour corresponds to a slot (32) of the core (24) that has been bent into a round shape.

14. A magnetically excitable core (24) having a core winding (40) for an electrical machine (140), produced by claim 1.

15. The magnetically excitable core (24) having a core winding (40) for an electrical machine (140) as defined by claim 14, characterized in that the core (24) has a joining point (156), at which its two end faces (68) are joined together.

16. The magnetically excitable core (24) having a core winding (40) for an electrical machine (140) as defined by claim 14, characterized in that both ends (61) are materially joined together.

17. The magnetically excitable core (24) having a core winding (40) for an electrical machine (140) as defined by claim 14, characterized in that at least one core winding terminal is disposed on each of the two sides of the joining point (156).

18. A stator (150) for an electrical machine (140), which is a magnetically excitable core (24) with a core winding (40), produced by claim 14.

19. An electrical machine (140), in particular a generator, having a stator as defined by claim 18.